



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,735	03/19/2008	Graham Michael Watson	066079-5138	1632

9629 7590 11/03/2010
MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

KLEMANSKI, HELENE G

ART UNIT	PAPER NUMBER
----------	--------------

1734

MAIL DATE	DELIVERY MODE
-----------	---------------

11/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,735	Applicant(s) WATSON ET AL.	
	Examiner Helene Klemanski	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/19/08</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the Search Report dated March 16, 2005 have been considered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 4 and 16, the phrase “contains less than 500ppm in total of divalent and trivalent metal ions (other than any divalent and trivalent metal ions bound to a component of the ink)” is considered vague and indefinite because it is unclear whether the limitations in the parenthesis are part of the claimed invention. See MPEP 2173.05(d). The use of this phrase suggests that the claimed composition may be produced to the desired end product with or without the inclusion of those components (i.e. limitations). Therefore, one must resort to conjecture to ascertain applicants intended point. The examiner suggests the deletion of the parenthesis or adding a new dependent claim to cover the limitations contained in the parenthesis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4108596 in view of WO 03/078529.

DE 4108596 teaches a process for the purification of a dye such as a phthalocyanine dye with a step of cross-flow microfiltration wherein the cross-flow microfiltration step is repeated at least once. The purified dyes are usable in inkjet ink compositions. See the abstract. DE 4108596 fails to teach the use of the phthalocyanine dye of the Formula (1) as claimed by applicants.

WO 03/078529 teaches an inkjet ink composition comprising a liquid medium and mixture of copper phthalocyanine dyes of the Formula (1)



Formula (1)

wherein CuPc is copper phthalocyanine; M is a cation; x and y each independently have a value of from 0.5 to 3.5; and $(x+y) = 2$ to 5. The ink has a viscosity of less than 20 cP at 25 °C and preferably contains less than 500 ppm in total of divalent and trivalent metal ions and less than 500 ppm in total of halide ions. The ink is filtered through a

Art Unit: 1734

filter having a mean pore size below 10 μm . WO 03/078529 further teaches a process for printing comprising ejecting the above inkjet ink composition onto a substrate such as paper. See page 2, lines 3-13, page 4, lines 12-15, page 5, lines 31-36, page 6, lines 3-10, page 7, lines 12-37, page 8, lines 9-12 and lines 19-21, example 1, Table 1, examples 12-14 and claims 1 and 7-13.

Therefore, it would have been obvious to one having ordinary skill in the art to have replaced the phthalocyanine dye of DE 4108596 with the phthalocyanine dye of Formula (1) of WO 03/078529 because the DE 4108596 reference teaches that any phthalocyanine dye may be purified by the step of cross-flow microfiltration as claimed by applicants.

It is the examiner's position that it would have been obvious to one having ordinary skill in the art that the step of cross-flow microfiltration as taught by DE 4108596 would include a membrane with a nominal molecular weight cut-off in the range of from 5,000 to 500,000 (or in the range from 20,000 to 100,000) since the step of cross-flow microfiltration in the above reference is the same as that claimed by applicants.

Applicants should note that the above DE 4108596 reference has been considered to the extent that it was cited as an Y reference in the search report on the claims since there was no translation readily available.

Art Unit: 1734

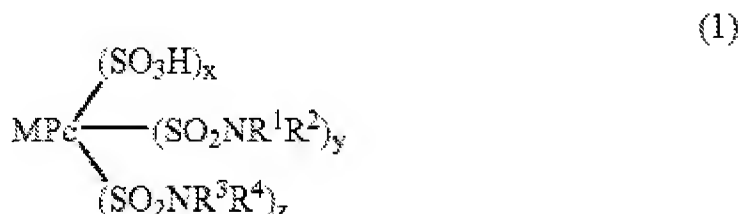
6. Claims 1-6 and 9-17 are rejected under 35 U.S.C. 103(a) as being obvious over DE 4108596 in view of Patel (US 7,156,908).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

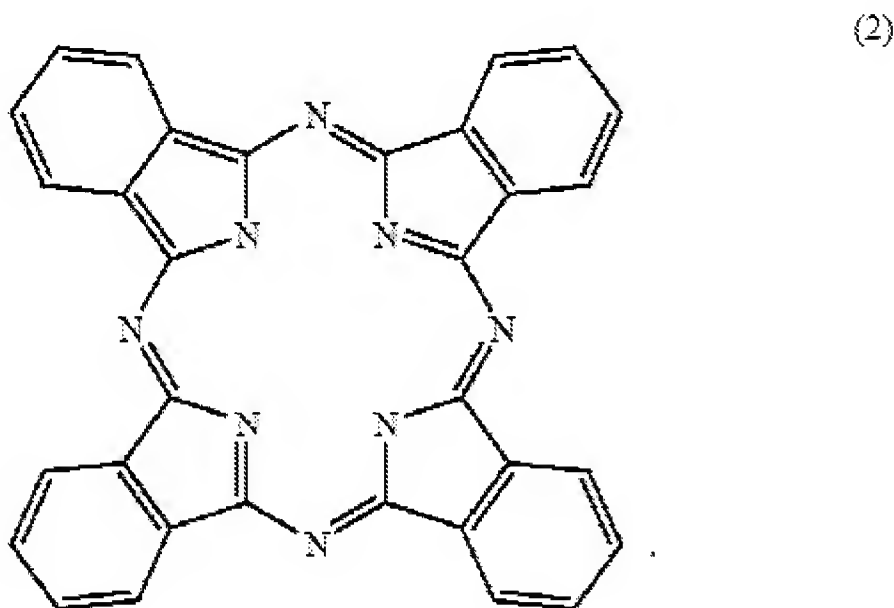
DE 4108596 teaches a process for the purification of a dye such as a phthalocyanine dye with a step of cross-flow microfiltration wherein the cross-flow microfiltration step is repeated at least once. The purified dyes are usable in inkjet ink compositions. See the abstract. DE 4108596 fails to teach the use of the phthalocyanine dye of the Formula (1) as claimed by applicants.

Art Unit: 1734

Patel teaches an inkjet ink composition comprising a liquid medium and mixture of copper phthalocyanine dyes of the Formula (1)



wherein M is Cu or Ni; Pc represents a phthalocyanine nucleus of Formula (2);



R^1 , R^2 and R^3 independently are H or optionally substituted C_{1-4} alkyl; R^4 is optionally substituted C_{1-4} hydroxyalkyl, preferably $-\text{CH}_2\text{CH}_2\text{OH}$; x is greater than 0 and less than 1.8; y and z are both greater than 0 and $(x+y+z)$ is 2.4 to 4.5. The ink has a viscosity of less than 20 cP at 25 °C and preferably contains less than 500 ppm in total of divalent and trivalent metal ions and less than 500 ppm in total of halide ions. The ink is filtered

Art Unit: 1734

through a filter having a mean pore size below 10 μm . Patel further teaches a process for printing comprising ejecting the above inkjet ink composition onto a substrate such as paper. See col. 1, line 40 – col. 2, line 5, col. 2, lines 22-67, col. 3, lines 28-34 and lines 58-62, col. 5, lines 38-63, col. 6, lines 1-3 and lines 59-61, col. 8, lines 5-17, examples 1, 17-333 and 34 and claims 1-4, 7-10 and 19-22.

Therefore, it would have been obvious to one having ordinary skill in the art to have replaced the phthalocyanine dye of DE 4108596 with the phthalocyanine dye of Formula (1) of Patel because the DE 4108596 reference teaches that any phthalocyanine dye may be purified by the step of cross-flow microfiltration as claimed by applicants.

It is the examiner's position that it would have been obvious to one having ordinary skill in the art that the step of cross-flow microfiltration as taught by DE 4108596 would include a membrane with a nominal molecular weight cut-off in the range of from 5,000 to 500,000 (or in the range from 20,000 to 100,000) since the step of cross-flow microfiltration in the above reference is the same as that claimed by applicants.

Applicants should note that the above DE 4108596 reference has been considered to the extent that it was cited as an Y reference in the search report on the claims since there was no translation readily available.

Applicants should also note that the 102(e) date for the Patel reference is the international filing date (i.e. September 19, 2003) since the WIPO publication of the IA is

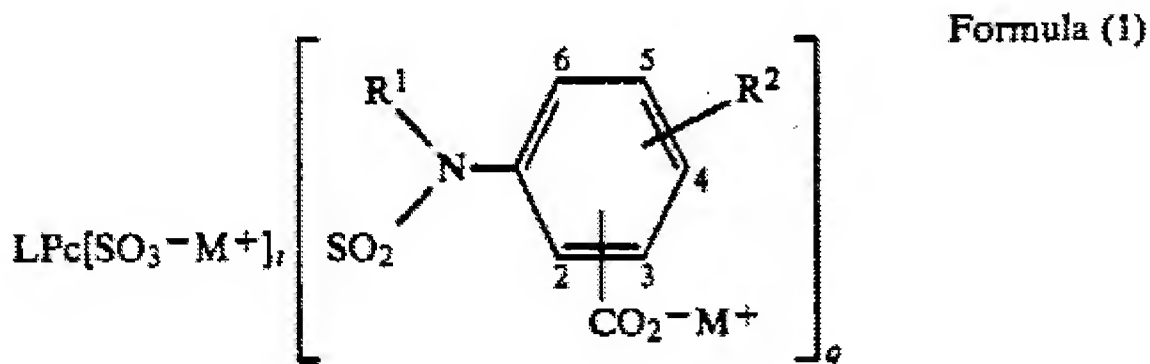
Art Unit: 1734

in English and designated the US. The examiner has included a copy of WO 2004/035701.

7. Claims 1-5, 7 and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4108596 in view of Gregory et al. (US 5,296,023).

DE 4108596 teaches a process for the purification of a dye such as a phthalocyanine dye with a step of cross-flow microfiltration wherein the cross-flow microfiltration step is repeated at least once. The purified dyes are usable in inkjet ink compositions. See the abstract. DE 4108596 fails to teach the use of the phthalocyanine dye of the Formula (1) as claimed by applicants.

Gregory et al. teaches an inkjet ink composition comprising a liquid medium and mixture of copper phthalocyanine dyes of the Formula (1)



wherein L is a metal such as Ni or Cu; Pc is a phthalocyanine radical; R¹ is H, alkyl or substituted alkyl; R² is H; M⁺ is NH₄⁺ or a substituted ammonium ion and (t+q) is from 3 to 4. The ink is filtered to remove unwanted anions such as Cl ions. Gregory et al. further teaches a process for printing comprising ejecting the above inkjet ink composition onto a substrate such as paper. See col. 1, lines 30-66, col. 2, line 1, col.

Art Unit: 1734

3, lines 46-48, col. 4, lines 24-37, col. 5, lines 31-50, examples 1, 3 and 5-8 and claims 1, 2, 4 and 6-12.

Therefore, it would have been obvious to one having ordinary skill in the art to have replaced the phthalocyanine dye of DE 4108596 with the phthalocyanine dye of Formula (1) of Gregory et al. because the DE 4108596 reference teaches that any phthalocyanine dye may be purified by the step of cross-flow microfiltration as claimed by applicants.

It is the examiner's position that it would have been obvious to one having ordinary skill in the art that the step of cross-flow microfiltration as taught by DE 4108596 would include a membrane with a nominal molecular weight cut-off in the range of from 5,000 to 500,000 (or in the range from 20,000 to 100,000) since the step of cross-flow microfiltration in the above reference is the same as that claimed by applicants.

Applicants should note that the above DE 4108596 reference has been considered to the extent that it was cited as an Y reference in the search report on the claims since there was no translation readily available.

The only limitations in the claims not found by the examiner are the viscosity, the total amount of divalent and trivalent ions and the total amount of halide ions of the ink composition. However, these limitations are considered inherent because there does not appear to be any reason why the cited reference (i.e. Gregory et al.) would not contain an inkjet ink composition with applicants claimed: (1) viscosity since it is well known that inkjet inks possess specific viscosities in order to be stably ejected from the

Art Unit: 1734

nozzles of the inkjet printing apparatus and (2) the total amount of divalent and trivalent ions and the total amount of halide ions of the ink composition since the inkjet ink of Gregory et al. is filtered to remove Cl ions (see specifically example 1).

Conclusion

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emily Le can be reached on (571) 272-0903. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1734

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Klemanski/
Primary Examiner, Art Unit 1734